Chapter 8

Developing a World-Class Serve for EVERYONE on Your Team or in your Program!

As with the volley, you can teach a large group of players on one court the proper serve progression that will lead most all players to be well on their way to developing a serve that is a weapon.

Figure 1: An advanced serve is not about genetics or great athleticism: It is about developing the right techniques.

Certainly, the serve should be every player's weapon. No other shot is in complete control of the player; from where they hit the ball from to when they decide to serve to what kind of serve they want to hit, all aspects of the serve have no bearing on an opponent's previous stroke. In addition, the serve is one shot that can be practiced without the need of a hitting partner.

The Serve Progression

With any size group, you can begin the training of a top-notch serve. If you are following up the serve after learning the volley, you are already training the continental grip. This is, in my opinion, the most important aspect of learning to serve. If you first learn to serve with the typical eastern forehand grip, nearly every aspect of the serve must change when changing to the continental. In addition, there are general limitations in using any grip other than the continental. So, needless to say, starting off on the right foot—er, grip, is an important decision!

Serve Mechanics within the Advanced Foundation

The serve has always been viewed upon as either a weapon or a handicap for most players. Players who possess highly effective serves have a substantial edge in competition: they already have half the games well in hand! Consequently, a level of confidence seems to follow good servers into competitive arenas. However, weak servers possess a sense of dread when it comes time for them to serve. These players often elect to receive first, even though they may have won the choice of serve or side, just to delay the mortification of displaying their contemptible serve!

Figure 2: The serve is the one shot in tennis where the person serving has full control of the ball.

In theory, the serve, perhaps more than any other stroke, should be every player's best shot. Why? Because the serve is the one shot that:

- The player dictates when they will hit the ball
- The player dictates where the ball will be when hit
- The player dictates where he or she will stand while hitting the ball
- Can be practiced with or without a partner

It is critical, however, that even dedicated players—who intend to practice their serve—learn how the serve should be hit correctly. For any player who is uncertain or has been given faulty service advice will surely meet with difficulty and doubt, creating most likely a questionable service motion in the process. It is interesting to observe that most recreational players possess a wide range of serving motions, most of which don't bear any resemblance to serves that are associated with championship play! From "paddy cake" serves to "leaping-leaners", from windshield wiper swings to tosses nearly reaching sub-orbital status, most recreational players who have minimal or no understanding of the proper service process unequivocally put the ball in play using some pretty bizarre methods!

Like the volley, many tennis instructors, authors and professionals, tend to teach the serve in a transitional pattern. The belief that a more basic model for serving should be taught and mastered, before the more generally accepted advanced service motion is attempted, seems to be common among most books and instructors. While this teaching philosophy may or may not speed up the ability for students to successfully hit the serve into play, it most definitely will hinder these players in developing a more advanced serve with power, pace, spin and control.

It has been my experience that players, given the right tools for learning the serve, can easily establish an advanced foundation for the serve. With few exceptions, almost every student I have taught, was able to develop the proper service motion, grip and technique needed for this advanced foundation, in essentially the same amount of time it took others to learn the more rudimentary serve taught by others.

This chapter is divided into two main sections: Technical Serve Techniques and Teaching Progressions. The first part is the "how to serve correctly" section. The second section teaches the methods to get your students to learn how to serve quickly and without the common difficulties many students experience when learning to serve.

Part I: Technical Serve Technique

Figure 3 & 4: Elementary serve foundations will seldom result in the player acquiring an "Advanced" service pattern. Note the similarities between these two "beginners"…however; the player in the far left picture has been playing for over ten years.

The Serve: Advanced Foundation

The Advanced Service Foundation is based on the mechanics that will provide the player with four critical components:

- Racquet head speed
- Spin
- Control
- Continued, progressive improvement

Serves that are established on "elementary" foundations tend to lack the first two of these elements in varying amounts. (Elementary service motions include the Eastern forehand grip, players facing the net, and the player's hitting hand in front of the racquet head at contact.) Without these two components, racquet head speed and spin, an advanced serve, one that has

speed and effectiveness, is virtually impossible. It is easy to spot players who don't possess the foundation for producing racquet head speed and, even more important, spin. They attempt a supersonic first serve (usually out by several yards!) followed by the proverbial paddy cake serve that even the spectators can read the label on the ball as it crosses the net! One of several defining characteristics that separate the 3.0 from the 4.0 player is the effectiveness of the second serve. Generally, 4.0 players have not only acquired the proper advanced foundation described in this chapter, they also understand the relationship of the three components mentioned above that make up the advanced foundation.

It is critical that students learn the relationship of spin and speed of the ball in how it relates to successful serves. Also, understanding the various kinds of spin and their effect on the flight of the ball and its subsequent bounce from the court is also critical.

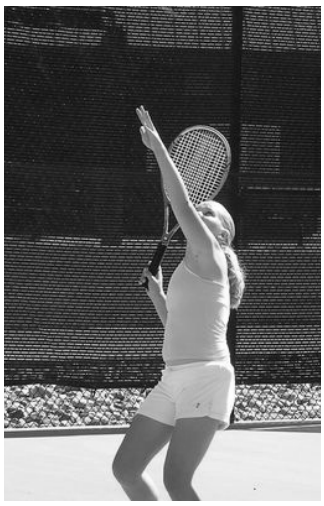


Figure 5: When players learn the serve correctly from the start, they end up with a prolific service motion for life. Here, 14 year old Ally Bergen delivers her serve. At 14, she could serve over 100 mph.

Without being able to produce desired racquet head speed, the amount of ball rotation (spin) will be severely handicapped. Likewise, if the player is unable to create the appropriate spin, the ability of the player to hit faster serves accurately into their opponent's service court will be greatly diminished. When a player lacks the ability to produce the right kind and amount of spin, the player will usually become a serving "dinker". As mentioned, these players tend to hit astronomically fast first serves, (with equally extraordinarily poor results), and second serves that are as slow as the name "dink" implies. With proper spin, not only are faster, more accurate first serves possible, but second serves that are consistent and effective are possible as well.

Figure 6: The ability to hit an effective and consistent second serve opens the door to not just a better second serve, but the player can be that much more aggressive on their first serve. Here, 16 year old A.J. Bartlett unleashes a second serve.

One of the biggest problems with serves based on "elementary" methods is that they don't allow for "continued, progressive" improvement. This means that basic service motions will reach a point where no more improvement can occur. However, a serve based on an advanced foundation will allow the player to improve EVERY aspect of the serve. Greater spin, more speed, better placement and increased consistency are all available to each and every student of an advanced foundation.

The "Second-Serve Advantage"

Players who have a mastered an effective second serve gain two distinct advantages. The first one is obvious; your opponent won't be able to tee-off on your second serve if it isn't weak! The second advantage is less obvious but equally important. If you have a confident second serve, your freedom to go after your first serve more aggressively WITHOUT the fear of either double faulting or having your opponent drill a return off a weak serve, is substantial!

The aspect of developing a good serve quickly is greatly enhanced by learning spin first. The prospect of providing players with the opportunity to go after first serves with an aggressive swing—without the fear of a weak second serve—creates many potentially easy points for the server.

Reasons for Spin

Like the axiom "what came first, the chicken or the egg?" it is sometimes confusing for players to determine if developing spin is important to learn first, or should they learn to develop racquet speed first. In my experience, it is absolutely imperative for players to learn how to hit spin first. There are several reasons for this:

- Players who develop racquet head speed first tend to have difficulty controlling or knowing what their racquet is doing during the course of the serve.
- It is much easier for players to add velocity to their serve after learning how to generate proper spin first.
- Players who hit inconsistently with high racquet head speeds tend to hit exponentially slower second serves in response to the fear of double faulting.

There is an obvious relationship between spin and racquet head speed. Certainly, if the goal is to generate greater spin, (and hence take advantage of the characteristics provided by this spin), players must increase racquet head speed. However, it is advisable for players to first learn the "swing pattern" of the spin prior to attempting to increase the speed of the swing itself. The reason for this is simple. Players who try to swing hard don't have the capacity to maintain racquet head control. Thus, a hard swing will usually follow a path that is most familiar to the player. This familiar path, in most cases, is far from the more complex path that players need to develop for an effective spin serve. Like learning any skilled movement, practicing slow, deliberate moves will increase the likelihood of the student gaining control of desired moves. Watch anyone trying to hit a tennis ball, golf ball, baseball, or other implement-related object. If they swing hard, the results are usually exponentially disastrous.

Types of Spin

There are basically three distinguishable spin serves. However, it should be noted that all three are based on a similar "advanced foundation", one that will allow the player to explore all three with minimal changes. (Flat serves also have spin. I will discuss the "flat" serve later in this chapter.)

Slice Serves

This is the starting point for all three spin serves. The slice serve is excellent in helping the student learn how spin affects the trajectory of the ball. In simple terms, a slice serve mimics the rotation of the earth on its axis. The ball is "brushed" with the strings moving across the equator of the ball creating sidespin. (Please see Diagram 1.

Note: These diagrams are drawn from the server's perspective, looking at the back of the ball that would be moving towards the intended target.

Slice Spin

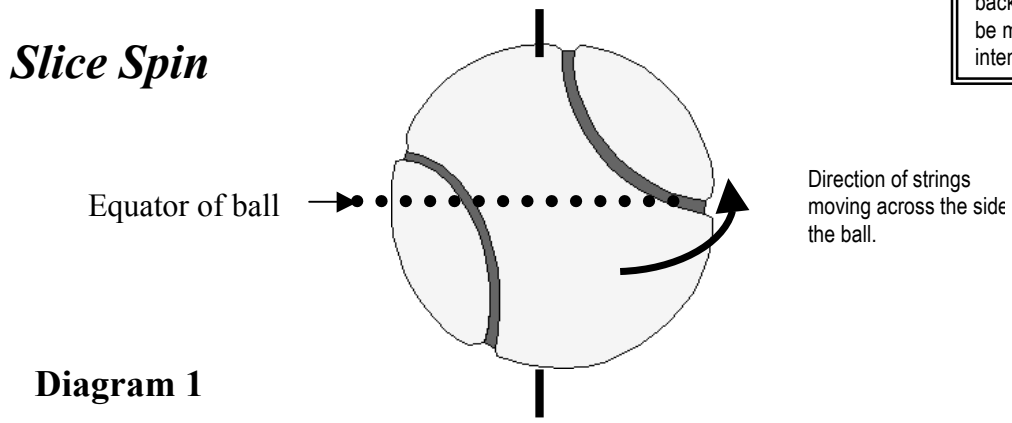


Diagram 1

True Topspin

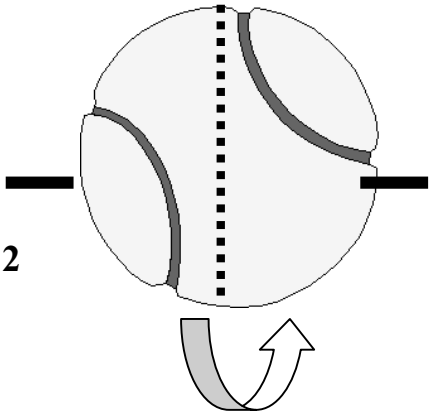


Diagram 2

For right-handed players, the slice serve will cause the ball to curve from right to left as it travels through the air. The action of the spinning ball against the air will create friction on the right side of the ball and lower air pressure on the left. A true slice serve will have a slight

dropping action on the ball, causing the ball to also dip slightly down as it curves to the left. However, this apparent downward movement is due to the fact that the forward velocity of the ball is slower compared to a ball hit with an equal amount of force but with little spin. The majority of the downward movement of a slice serve is still influenced more by gravity than by the spinning action of the ball.

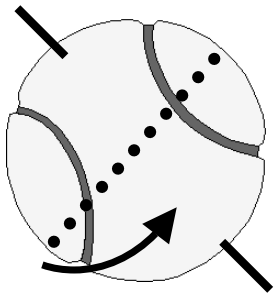
Topspin Serves

The topspin serve is actually a misnomer. The action on most topspin serves is actually a combination of slice and topspin. Most players will have a most difficult time creating true topspin on a serve. In order to hit true topspin on a serve, the strings of the racquet must move directly up the back of the ball at contact. Because of our anatomy, this action is almost impossible for most people. (See **Diagram 2**)

In reality, most skilled players brush up the ball at an angle from lower left to upper right (for right-handed players.) Or, using a clock analogy, the strings brush up from 7 or 8 o'clock to 1 or 2 o'clock. (See **Diagram 3**)

Combination slice and topspin action.

Diagram 3



The action of a "topspin" (or combination slice and topspin) serve helps bring the ball down into the court using the physical properties of the spin. In addition to gravity, a ball moving with topspin will have additional help in arching down into the court. (Just like topspin groundstrokes do.) This action allows a player to hit the serve with more velocity and have a relatively greater margin for error over the net. In addition, the topspin action will cause the ball to bounce higher off the ground than the slice or a flat serve with minimal spin. This makes the return a generally more difficult shot for the returning player.

The combination of slice and topspin will produce a bounce that resembles both: a dipping serve with a higher bounce that also curves right or left, (depending on left or right-handed spin.) As players develop their tennis abilities, such advantages of making the ball curve and bounce differently on their serve provides greater diversity, and consequently, greater difficulty for opponents!

Left Handed Servers

For those of you who are left handed, you have a nice advantage built into your game: Left-handed serves obviously curve and bounce to the opposite direction as right-handed serves. The advice of developing spin over speed is even more of an advantage to you lefties! It is simply foolish not to take advantage of this benefit. If you are a left-handed player, focus on developing a spin serve as described here and your serve will be far more difficult to return than if you simply hit it flat. A "flat" left-handed serve is, for the most part, no more difficult to return than a flat right-handed serve.

Figure 7: An advanced service foundation can be achieved at any age.

Kick Serve

The third kind of spin serve is called a "kick" serve. It is by far a more difficult serve to execute for most players, but is quite effective when developed. The spin of a kick serve is produced by a player hitting up on the inside or left edge of the ball as opposed to up the back as in the topspin or around the outside edge as in the slice. The spin of a kick serve has the ball spinning on an axis that is horizontal like the topspin serve, yet the axis is pointing to the left net post for right-handed servers.

Unlike the slice in which the ball is spinning from right to left in relation to its direction from the server, the kick serve spins up slightly from left to right. The racquet strings brush up from below the left side of the ball and finishes higher and to the right of contact. This action causes the ball to spin with its rotation from left to right. The result is a serve that curves slightly to the server's right and bounces up and to the left of the returning player. Since topspin and slice serves bounce up and/or to the right of the returning player, the kick serve, with its leftward bounce, can be quite difficult to return.

For right-handed servers, learning to serve a kick serve is easier to develop on the left-hand court, serving to the ad service box. Since the kick serve is a more "advanced" serve, it is important to establish an advanced foundation before moving to this serve. It will be much easier to learn and master the kick serve if this foundation is first developed.

I will discuss the kick serve in detail later in this chapter.

The "Advanced Foundation" Serve

Grip

Figure 8: A proper ready position includes a strong, distinctive preliminary stance.

As with all playing foundations, the serve begins with the proper grip, one that will be used in developing an advanced serve. Beginners, intermediates and advanced players—all who seek to serve well—should utilize the same grip.

As most books and teachers recognize, the Continental grip is the preferred choice among all skilled or advanced players. Those who learn the serve with the more basic Eastern forehand grip will have several components in their service technique that differ from those who serve utilizing the Continental grip. This is one of the reasons why players who learn the more basic serve pattern using the Eastern grip have extreme difficulty making the transition to a service motion that uses the Continental grip. Not only is the grip different, but a host of other service components will need to be changed as well. It is never "just a grip change."

Ready Position (For right-handed players) **Figure 8**

The stance for the advanced foundation is similar to a proper forehand groundstroke at contact. The position starts sideways with the left foot in front, the right foot back and slightly behind the player. Notice how this position, (Figure 3) mimics a closed-stance forehand groundstroke.

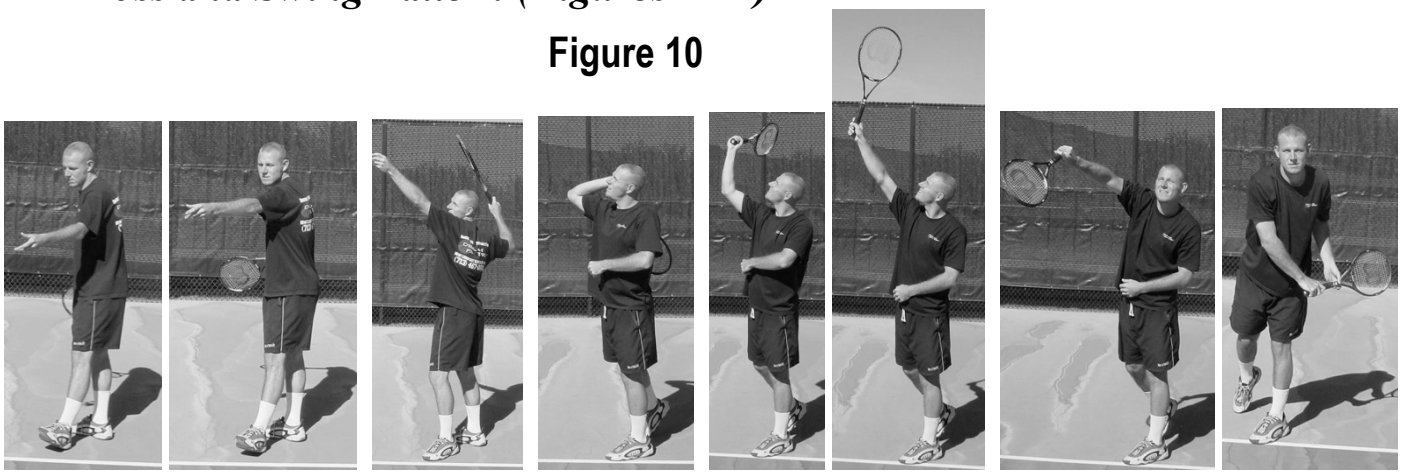
Figure 9
Note the open racquet face at ready position.

The racquet is held with the Continental grip and the hitting side of the strings is facing slightly up. (**Figure 9**) This is accomplished by turning the wrist of the hitting hand in towards the server. The left hand cradles the throat of the racquet.

The ready position also includes several initiating moves for most players. Bouncing the ball, letting the arm swing freely and loosely, and a pause, to set yourself, prior to starting the swing sequence. I will address these important additions to add to your advanced foundation at the end of this segment.

Toss and Swing Pattern (Figures A-H)

Figure 10



A B C D E F G H

Figure 11

Note the rocking back of the player's weight to the back foot as the toss is initiated. The racquet arm drops down and back. The face of the racquet does not lay open.

Key Position Points

A & B: The Toss (Figure 10 and 11)

Here, the weight of the player has shifted to the back foot. The tossing arm is held straight and slightly to the right. The hitting arm begins to drop back but the racquet face stays facing the player's hip. (**Figure 11**)

Figure 12: The toss release point

The toss is one area that causes many players trouble both in consistency of the serve and in the actual mechanics of hitting the ball. Typically, the major contributing factor to an inconsistent toss is the use of the wrist in "flicking" the ball upward. I recommend one of two toss methods:

a. Hold the ball in the fingertips and "push" the ball upward with the arm. Release the fingers by opening the hand palm up as the arm lifts the ball.
b. Hold the ball as if holding a glass of water. Use the thumb and first two fingers to hold the ball as the arm lifts. (See **Figure 12**)

Figure 13: As the backswing continues, the right elbow moves back as the racquet moves higher.

Both of these methods will decrease the player's tendency to use the wrist in making the toss.

Notice the toss arm is forward and to the server's right. This position sets up for the desired toss required for both a slice and a combination—slice/topspin serve. Notice in the sequence of the serve pictures above (**Figure 10**) that the extension of the arm from the toss position (**Letter B**) is nearly in line with the racquet at contact, (**Letter F**).

C. Backswing Continuation (Figure 13)

As the tossing arm continues up, the racquet begins to rise. Notice the face of the racquet is still facing forward. This is important. Do not lay the racquet back. This typically causes the palm of the racquet hand to rotate and face upwards. As a general rule, keep the same wrist position as in the ready position through the backswing. (With the wrist turned in slightly.) This will prevent the notorious "Palm-up" position later in the swing!

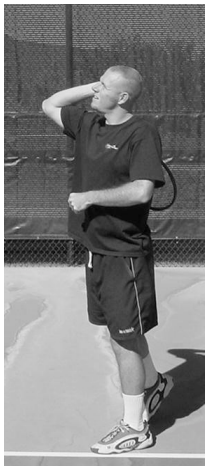


Figure 14: The "collapse". The racquet drops down as the elbow moves forward.

Notice, as the toss is completed, the body is turned further sideways to the net, almost to the point of their back facing the net. This foundation is required for players to maximize power and body rotation without the prospect of rotating too early or too much. At this point, the toss arm is fully extended and the hitting arm is cocked at the elbow. The elbow at this point is held up away from the body. Many players tend to drop the elbow here creating a hitch in their service motion.

Figure 15: "Edge-on" The player leads the racquet forward with the butt-cap just prior to the brushing contact on the right edge of the ball.

Also note the position of the hitting palm. Typically, players who use the rudimentary Eastern forehand grip will be in the "Waiter's" position, holding the palm flat, facing the sky, (as if holding a tray). Holding a Continental grip will keep the palm of the hitting hand more in a downward position.

D. Preliminary Contact Sequence "Collapse" **(Figure 14)**

At this point three distinct actions take place:

1. The toss arm drops and is held near the stomach area;
2. The hitting arm has come forward with the elbow leading;
3. The racquet has completed its "collapse" behind the player's back.

This sequence is completed as a continuous motion. The combined movements of the elbow moving forward and the racquet head dropping to the collapsed position creates the necessary movements for maximum racket speed. The sequence creates a similar motion to throwing a ball or cracking a whip.

It is at this point that many players who use the Eastern forehand grips for their serves do themselves in: they tend to hold the racquet in a "palm-up" position.

E. Pre-Contact "Edge-on" position (Figure 15)

As the elbow continues forward, the racquet begins to "whip" up from its collapsed position. When the elbow reaches this position, the racquet moves up with the edge of the racquet leading. This position makes it look like the player is going to hit the ball with the edge of his racquet instead of the strings. (Which is why we call it the "Edge-on" position!) Key points include the butt-cap of the racquet is nearly facing the target. The palm of the serving hand is still turned in as opposed to facing the sky (as most players will do if they are using the Eastern forehand grip).

At this point, notice the slight rotation of the shoulders from their closed position in picture C. Many players over rotate at this point and completely face the net prior to contact. Players who use an Eastern grip on the serve tend to face the net prior to contact. This diminishes

the rotational power, (from angular momentum) and limits the racquet distance during the key acceleration phase. Our advanced foundation of using the Continental grip will utilize a body rotation DURING contact as opposed to before contact.

F. Contact (Figure 16)

At contact (and just prior to), the racquet face is beginning to pronate towards the ball. During the sequence that leads up to contact, the swing pattern will dictate the type of spin the player wants to apply to the ball. For more slice, the racquet will be hitting more across the outside edge of the ball. For topspin, the racquet will be moving up the back of the ball. For a kick serve, the racquet will move up the ball from the back and slightly on the left, inside edge of the ball.

Note that the contact point is almost at a full extension of the arm. With most spin serves, the contact point will be slightly below this point as the racquet will still be moving up or across the ball. Contact made at the very apex or top of the player's reach will reduce the capacity of spin potential.

G. Pronation of the forearm. (Figure 17)

Figure 16: Contact of the ball is almost at full extension of the arm. Pronation of the forearm brings the racquet fact to the ball. On spin serves, the stings will be moving across the ball at contact.

This is a critical point for developing racquet head speed. As the contact point of the racquet addresses the right side of the ball, the racquet head is pronated to the right. (This makes

it look like the racquet is hitting the ball to the right instead of to the left! However, the ball has left the strings at this point. Here, relaxation of the racquet after contact begins.) This movement generates tremendous racquet head speed. An important point to remember here is the fact that the player will want to address the right side of the ball prior to the pronation. If the player pronates too early, the ball will be contacted too flat or on its left side. Remember the foundation serve is based on a slice serve.

Teaching Notes:

When I teach the slice serve, I usually don't even mention pronation as it can sometimes confuse a student. Generally, as a player develops the slicing action of the ball and begins to add power, pronation almost always occurs naturally.

Notice the toss hand and arm are still held across the stomach area during contact. As on many shots in tennis, this action helps prevent the player from over rotating. Also, the hips still face to the right slightly, demonstrating that the rotation of the body and hips is only one-quarter of a turn. Compare this position of the hips with that of their full coil in **Figure 13**.

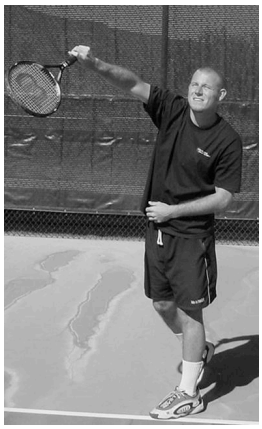


Figure 17: Maximum racquet speed is generated when the racquet continues to pronate. If the playe is reduced. (Note the very little moveme

Figure 18: Notice the high elbow position well after contact by Pete Sampras on his serve

Footwork Notes

On the serve, top level players push off on their front foot, (left foot for right-handers), and land on this same foot after contact. As players use greater upward thrust in generating additional power, the push off the ground is with this front leg. For years, there has been an argument among teaching pros of whether this is the best way for players to get to the net following the serve. Some pros believe stepping through with the back foot during contact and thus landing on this foot speeds up the movement of the player to the net. However, this is false. In addition to the problems this technique creates, (as I have mentioned regarding rotating the hips too early), it does not offer any advantage to a player who wishes to advance to the net. This is because the relationship of the body at contact dictates movement towards the net. Thus, a player who is stepping in with the back foot at contact lands one step in just after contact. In order to take a second step, the player must change the direction of rotational inertia of the body in order to get the next step in to the net. A player who pushes off and lands in the court with the front foot also has one step in just after contact. However, the natural rotation of the body's inertia continues to bring the back leg around in the same momentum allowing the second step to be in sync with the body's natural rotation after the serve. One final note, there isn't one top player on tour who steps through with the back leg!

Another point should be mentioned here. Notice the upper arm position in Figures E, F, and G. In Figure E, just prior to contact, the upper arm position is exactly in the same position as in Figure G, just after contact. This is an example of how the serve is not an "arm" swing as much as it is a forearm rotation (pronation). In **Figure 18**, you can see that Pete Sampras' serving arm stays very high long after contact. There is a kinetic chain of muscle movements in this sequence that include the shoulders and the upper arm slightly. However, the vast majority of beginning and intermediate servers tend to over-swing with their arm at this stage and not gain the explosive power available when the upper arm stays relatively still. The problem is that many players try to swing hard by pulling the elbow forward and down. (Similar to how you would swing an ax down onto a block of wood.) This minimal movement of the upper arm allows the forearm and wrist to pronate correctly producing the whip-like action of the racquet through the ball.

Figure 19: Follow-through is a relaxation phase of the serve.

H. Follow-through (Figure

The follow-through of the serve is a relaxation of the hitting arm. Notice the arm moves down and across the front of the server. Players who use too much arm-swing in trying to generate power tend to finish on the right side (the wrong side!) of their body. This is because the arm is pulling down through contact with such force that the player can't maneuver the racquet across the body.

At this point, the weight is forward, still on the left foot, however. Like most all shots in tennis, do not let the back leg swing around until long after contact! This is a common fault among beginning and intermediate players. By swinging or stepping into the court with the back leg, the hip and shoulders tend to rotate too early and too much. The player who does this will tend to push the serve instead of creating a full stroke.

Figure 20: Serving, Pete Sampras maintains a "Platform Stance" during his serve.

Footwork Variations

There are basically two distinct stances used by skilled players. They are the "Platform Stance" and the "Pinpoint Stance". Both are used effectively by top pros but there is a debate as to which one is most preferred and advantageous to the student. I will provide a description of both stances and explain the key points of each.

Figure 21: "Pinpoint Stance" is where the player brings his back foot up to his front foot.

PLATFORM STANCE (Figure 20)

This stance is demonstrated within the sequence of pictures that have been used in the description of the service motion. Basically, the platform stance places both legs on the ground about shoulder width apart without any major movement of the back leg until contact. Andre Agassi, Roger Federer and Pete Sampras favor this position.

The platform stance seems to allow greater body coil on the backswing providing more angular momentum through contact.

PINPOINT STANCE (Figure 21)

The pinpoint stance is characterized by the server sliding his back foot up to or next to the front foot prior to contact. Many top players including Andy Roddick, Greg Rusedski and Layton Hewitt favor this motion. Even as the pinpoint stance provides for less body coil, many players are more comfortable with this position. Also, it is theorized that the pinpoint stance allows the player to push with both feet during the swing as opposed to just the front foot. However, in analyzing high-speed video of these positions, it is negligible how much extra power or speed is produced through this position.

Figure 22: Leg flex prior to contact.

Advanced Service Progressions

Once an advanced service foundation is developed, more advanced and more effective serves can be developed without any major changes in technique.

Figure 23: Upward Trust will propel players upward through contact.

Here are some advanced progressions that you will want to work on once your foundation is mastered.

1. ***Advanced Progression: Greater Use of Legs***

As you can see from the sequence of pictures of the serve exhibited throughout this chapter, there is minimal movement of the legs demonstrated. However, as a player develops, the legs play an important role in adding pace to the serve. But, if the legs are used improperly, every aspect of the serve can be negatively affected. This is one of the reasons I have not addressed the legs up to this point.

The legs emphasize three directional components during the serve: Upward, forward, (which are both termed "linear movements"), and rotational movements. If a player capitalizes by adding these three movements in proper correlation with other service components, they can improve their serve's effectiveness dramatically.

Figure 24: When players lean in to generate power, they lean in SIDEWAYS, so they don't end up rotating forward too early.

A. Upward Thrust (Figures 22 & 23)

By flexing the knees (see **figure 22**), and thrusting upward at contact, the body can add inertia and force to the serve. Notice the body position and leg flexion prior to contact.

The result of this contraction and subsequent extension of the legs propels the server upward. It is not that the player is intentionally jumping to hit the serve. The result of a powerful extension of the legs during the serve results in the player being lifted off the ground. (See **Figure 23**)

Figure 25: Here, Sampras rotates nearly 180 degrees in relation to the net.

B. Forward Thrust (Figure 24)

By tossing the ball towards the net on the serve, the body will lean forward to hit the serve. However, this movement must be done correctly. The body must stay sideways as it leans forward. (See **Figure 24**). Most players who have not mastered a proper service motion will rotate their shoulders to face the net when attempting to hit a ball-toss further forward. This will flatten the serve out or result in the player pulling the serve out wide to the left. Players should lean forward over their toss arm's shoulder.

Figure 26: Note the upper body coil and the knee bend combine in this image taken from above the player.

C. Rotational Thrust (Figure 25 & 26)

By coiling up more on the backswing, the player will be able to generate more thrust by the uncoiling of this rotation. Some players rotate almost 180 degrees in creating this coil. (See **Figure 25 & 26**) This actually brings the player to turn their back towards the net on the backswing.

These three leg movements can be combined to create tremendous added force to a serve.

Advanced Progression: Increased racquet speed

Obviously, a faster moving racquet will impart greater speed to a ball. There are a few tips that can give a player greater racquet speed.

A. **Loose wrist and fingers.**

By relaxing the hand and fingers, the wrist and forearm can have greater flexibility and range of motion. Many top players actually open their hand slightly on the backswing, allowing the hand to relax prior to the acceleration of the racquet towards contact.

Beginners and even some advanced players must be careful not to let their grip change during this relaxation stage. This is especially common among players who are trying to change from the rudimentary Eastern forehand grip to the more advanced Continental. Players notoriously (and usually unconsciously!) switch grips in mid swing!

B. Greater rotation of the wrist on the backswing.

Turn your wrist in towards your hips at the ready position. The more you can turn the wrist in, the more range of motion the racquet will be able to create in the serve. This usually creates more slice for most players initially, generally sending the ball too far to the left. However, as a player begins to set up by aiming more to the right, they eventually will gain greater racquet speed on the serve.

Figure 27: Turning the wrist in slightly increases the action that can be used in creating racquet head speed.

"Flat Serves"

The term "Flat Serve" is a misnomer. There is virtually no such thing as a perfectly flat serve. Whether intentional or not, every serve hit will have some amount of spin.

The idea of a flat serve is one that has greater (or added) emphasis on ball velocity than on spin. Thus, a flat serve is one that is hit with the strings NOT brushing across the ball as much as in a true spin serve.

There are two simple phrases that create a clear mental image for most players in hitting both a flat serve and a spin serve. It deals with what the strings are doing to the ball.

For a flat serve the phrase is: ***"at the ball".*** For a spin serve the phrase is ***"across the ball".*** In other words, bring the strings directly to the back of the ball, flattening out against it for

a flat serve. For the slice serve, move the strings across the ball, (in whatever direction is dictated by the type of spin desired).

However, it should be noted, that when accomplished players attempt a "flat" serve, they still apply a great amount of spin to the ball. This is because, as the ball is hit with greater velocity, gravity has less impact on the downward arc of the ball into the service box. A player would have to be nearly 9 feet tall to be able to actually hit a perfectly flat ball with no downward arc, over the net and into the service box!

To give you an idea of just how much spin is actually hit by pros hitting a so-called flat serve, look at this comparison of Pete Sampras' first and second serves:

Pete Sampras First Serve Speed and Rotation

	Serve Speed	*Spin Range*	*Average RPM's*
Pete Sampras	120mph	2100-4260rpm	2699rpm

Pete Sampras' Second Serve Speed and Rotation

	Serve Speed	*Spin Range*	*Average RPM's*
Pete Sampras	85mph	3900-5357rpm	4623rpm

From these tables, you can see that even Pete's first serve at 120 mph contains a tremendous amount of spin.

How to hit a Flat Serve

There are many ways to make the strings hit the ball fairly flat, including several grips that can accommodate this action. However, most grips other than the Continental grip have limiting factors. Thus, the motion described earlier in this chapter will be essentially the same with a couple minor changes.

Change #1: Conceptually, just the mental picture of the racquet flattening out against the ball instead of brushing up can produce the desired flat serve with greater ball speed.

Change #2: Toss the ball more towards the net. If the player stays sideways and attacks the ball, the racquet will naturally flatten out against the ball. Also, by leaning in and still hitting across the ball, you will attain a "heavier" ball, one that still has good spin but with much more velocity. Of course, this action is more difficult. Beware of the tendency to open up your shoulders when you toss into the court more. Try to remember to lean in over your tossing shoulder as you begin the contact phase.

Change #3: You can rotate your grip subtly towards the Eastern forehand grip. If you keep everything else the same, this slight change will automatically flatten the ball out on your serve. However, if you rotate all the way to the Eastern forehand grip, you will lose racquet speed through a shorter swing distance.

"Kick Serves"

Kick Serve Action as a Definition

Technically, a kick serve is one that moves or behaves opposite to that of the normal slice action that most players first learn when they apply spin to a serve. That is, typically, right-handed players will swing forward, towards the net from left to right and brush some aspect of

the right side of the ball (when looking at the ball from the back, viewing it towards the net while it is in the air over the server). Any such slice serve by a right-hander will curve to the left and bounce to the left. A kick serve is one that, when hit by a right-hander will curve to the right and bounce to the right. Because the swing mechanics of a kick serve tend to produce more of a topspin aspect to the ball than a true 'left-hander's slice', the term 'kick' has been used to describe this high-bouncing ball. The topspin nature of this ball bounces it higher than typical hybrid serves that have slice and some topspin.

How to hit a kick serve (All descriptions are for right-handed players. For left-handers, reverse any of the directional directives.)

It is not uncommon to hear of players trying for years—if not decades!—and never successfully executing a kick serve intentionally. The reason for this is that the general swing pattern for most players on the serve often prohibits the necessary swing path for a kick serve. No matter how hard they try, they can't hit a kick serve! (In fact, the harder they try, the more impossible it becomes! I will talk about this in a moment.)

For the kick serve, the racquet path must move up the inside of the ball and brush up this left side of the ball, thus creating a spin axis that is almost horizontal as well as an axis that has its pole pointing towards the net. This ball will spin towards the right as well as have a significant downward arch.

The main problems for most players lie in two elements of the serve that, once realized, opens the door for all players to gain a kick serve.

Problem One: Elbow rotation.

Typically, as in any throwing motion, the initial moves include the arm rising, with the elbow pointing somewhat backwards. As the throwing hand begins to drop back (the collapse phase part in serving), the elbow moves forward creating a whip-like action of the hand and forearm which follow. The object of this movement is to maximize the hand speed when releasing the ball to be thrown.

In tennis, this same motion is executed. However, once the elbow starts to lead the way, the racquet can only attack the ball from the back or the side of the ball. (Assuming the player is using a continental or even an eastern forehand grip.) Once this movement occurs, it is nearly impossible to create a swing path that is up the inside of the ball.

Problem Two: Shoulder Plane Rotation

As in problem number one, as the throwing motion transpires, the upper body leads the way prior to the elbow's rotation. This opening up of the shoulder plane (bringing the shoulders around to face the net), again prohibits the ability to create a swing path that produces a kick serve. While this motion is common in throwing and most serves, the kick serve requires a different path, one that is compromised when the body or the elbow rotates towards the net.

Solutions

First off, try learning the kick serve on the ad side if you are right-handed. This left to right trajectory is better suited to work on the proper swing path. Also, stand out wide, near the doubles alley. The more angle you can create, the more you can emphasis the kicking action and necessary swing path.

Stance:

Stand with a fairly closed stance, where your bellybutton is facing a little more than the side fence, almost facing the back fence.

Grip:

As with all good serves, the ideal grip is the continental. This grip will allow for the racquet face to be set properly for the necessary swing path. You can experiment with a slight eastern backhand grip which opens the racquet more at the start of the stroke and closes over the ball more at contact.

'Window Pane'

Imagine there is huge window that extends up out of the baseline as high as you can reach. When you serve, picture that you can only swing parallel to the window when hitting the ball—instead of swinging through the window and breaking the glass. (For right-handers, this would be an exaggeration of the left to right swing path.) When you swing, imagine that you DON'T want to break the glass. This analogy will help in both the two problems I mentioned earlier. In order to not break the glass wall, you will have to stay sideways with your body and you will also keep your elbow back longer.

Sideways Position

As I just mentioned, you will want to consciously try to stay sideways to execute the kick. Almost every player I have ever seen attempt the kick, tends to rotate too early. You will need to override this tendency until you get a feeling for the serve.

Elbow Position

Leave the elbow back much longer than your normal serve. That is, try not to start the serve with the elbow leading the way. Get your racquet to start up first.

Brushing Action

Toss just slightly over your head. (If you follow these instructions, you don't have to toss way behind you, nor, arch your back a great deal. Although, when you master the kick, slight variations can add emphasis to the kick action.) When looking up, you should be looking up at the inside portion of the ball. (The side of the ball nearest to you.) This is the side that you are going to want to attack, brushing up and out away from you. At contact, your racquet should still be moving up and to your right, towards the sky. After contact, the racquet then continues around your body as in a normal finish.

American Twist Difference

The 'American Twist' did have one difference in execution from that of the modern kick serve. The American Twist was usually taught to have the racquet finish on the same side as the hitting arm. This awkward finish put a lot of strain on the arm as well as the back as this motion also used a greater arch in the back to gain access to the inside portion of the ball. Today, we have found that if the player stays sideways and holds back their hitting elbow, the swing path can brush the inside of the ball, allow pronation, and then relax across the front of the body as normal serves.

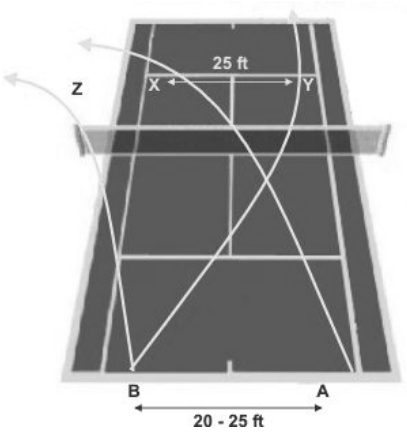


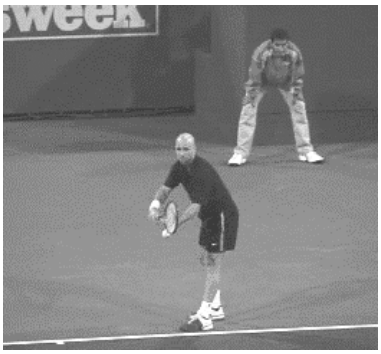
Diagram 4: Direction of travel for serves if no change in the intended direction is made for two similar slice serves directed into the two different service boxes.

Common Faults on Serving

Once the motion of the serve has been mastered, there are a couple faults that players sometimes do unconsciously.

Not Changing Body Position on the Ad and Deuce Sides. (Diagram 4)

When a player learns to direct the ball, the aiming sequence is dependent on the player's position at contact. For example, if a player serves a slice serve from the deuce court and positions his feet a certain way, they will need to change their position in relation to the court if they hope to slice the serve into the ad court. However, players often line up at the base line on both the ad and deuce courts essentially the same in relation to the court. Thus, when a right-hander serves from the ad court without adjusting their aim (through their initial body position, they end up pushing the ball and flattening it out in an attempt to direct the ball towards the right-hand service box. Players must understand that not only is the intended direction changed from the deuce to ad courts, the position of the player is changed as well. An example of this is when a player serves from near the alley in doubles on the deuce side. When they move to the ad court to serve, if they are serving from near that alley as well, they have moved approximately 25 feet! If when serving to the deuce court and aiming towards the middle of the box, the serve from the ad side will need to be directed approximately 35 feet further to the right to get the SAME serve in on the ad court. Unfortunately, players stand relatively in the same position relative to the base line on both sides! If a player doesn't make a change in the body position between these two sides, a major stroke change must be enacted to get the ball to land into the ad court.



Figures 28 & 29: Note that Andre Agassi stands more closed on the ad court in singles (right) than in the deuce court (left). Notice that his toes align (from the arrows) at almost 90 degree difference between the two sides.

Beginners have a notorious time making this adjustment. When a beginner or intermediate player learns to slice the ball on the deuce court, they inevitably hit the serve from the ad court too far to the left.

Figure 30: Notice the high leg kick-back of the back leg of Andy Roddick. As with almost all top players, Andy lands on his front, left foot.

Because we have moved some 25 feet from one side to the other in serving from the deuce court to the ad, players often fail to calculate how much difference in aiming they need to compensate for this difference. It is common for players to line their feet up along the base line the same way no matter where they are serving from. While some advanced players can manipulate their upper body and swing pattern to compensate for this change, most make a definite adjustment between the two serving sides with their feet as well.

Figure 31: Note the similarities in Leyton Hewitt's serve and Andy Rodick's serve above.

Unconsciously, players compensate for the trajectory change by simply pronating their racquet earlier to hit the ball towards the intended target on the ad side. However, this creates a much flatter serve and does not allow the player to use the same service motion (slice, topspin or flat) as they did on the deuce side. Basically, it means that the player will end up having to learn to control two distinctively different swing patters, one for each side. (This can actually be desirable if it is learned intentionally!)

Grip Changing in Mid-Swing

This is more common than most players and even tennis instructors think! I have seen beginners to high-caliber players set up their serve with the desired Continental grip only to unconsciously switch grips in mid swing to something else! (Usually something near the Eastern forehand grip.) While it is advantageous to hold the grip loosely, it is imperative that players NOT change the hand position on the grip during the swing. This fault commonly occurs when a player wants to add power to their serve. The Eastern grip is a stronger FEELING grip. However, it prohibits maximum racquet head speed and, thus, less power that the Continental grip provides when used properly.

Figure 32: From a different angle, here is Gustavo Kuerton's kick-back of his right leg and the landing upon his left.

Stepping Through with the Back Leg

Many traditionalists remember the legendary tennis greats, Bill Tilden, Ellsworth Vines, Jack Kramer, and Pancho Gonzales, all serving while their back leg swung through. These players would step with their back foot and end up on this foot after contact. Yet today, not a single professional player, men or women use this footwork method. Why?

Actually the rationale for the back foot step once made perfect sense. This was before a major rule change in the game that forever altered the biomechanics of serving. In the 1940's and 1950's, the rules required the server to keep one foot on the ground until after contact with the ball. This drastically limited the amount of knee bend or leg coil a player could use.

Back Scratch Issue

There is a fairly well-known teaching pro named Vic Braden who frowns on the use of the phrase, 'Back Scratch' as a position for teaching the serve. While most pros actually don't achieve this position exactly, the phrase is common among good teaching pros to get students who either straight-arm the serve (like someone ready to toss a hand-grenade) or someone who doesn't let their racquet collapse far enough to learn this aspect of the racquet prior to the contact phase.

The point here is to understand that the racquet should drop behind the hitting shoulder completely to maximize the amount of acceleration a player can achieve on the serve. If telling a student to 'scratch their back' helps them understand this phrase, then by all means, use it. I have never seen this phrase prevent a player from developing a high-caliber serve.

Amazingly, I have worked in clinics of so-called intermediate and advanced club players, and have found that many of these players executed improper footwork on the serve. The loss of proper body rotation and the subsequent loss of racquet head speed is one thing. Yet, the greatest hinder associated with the back foot coming through too soon is the loss of shoulder position: When the back foot swings around, the hips follow and then the shoulders, (unless consciously, the player maintains the upper body sideways.) When serving, if the shoulders rotate prior to contact, the correct brushing of the ball will be impossible. This is why many players who do indeed step through on the serve usually only hit flat serves. If the player were to slice the ball, the serve would land way too far to the left. (For right-handed servers.) Thus, the player must pronate the forearm and flatten the ball just to get it to go in the general intended direction.

Figure 33: Note the high kick-back of the right leg after Maria Sharapova has pushed off and landed on the front left leg.

One of the arguments by some individuals regarding the back leg's movement on the serve is that by stepping in, the player gains a step towards the net for a serve-and-volley sequence. This may sound logical, however it is false. Studies have shown that when a player

pushes off with the front leg in making contact with the serve, the forward rotation of the body while landing on the same leg propels the player further than if the player served with the back leg swinging around. With the back leg staying back at contact, the player inertia is forward after contact, especially on harder hit serves. However, with the back leg swinging around or stepping through at contact, the player's inertia is to the player's left. (Again for right-handed players.)

The greater issue is in learning the serve. Players who step through with their back leg tend to have difficulty advancing their serve within the progressive concepts presented throughout this chapter.

The preponderance of top pros and skilled players alike landing on their front foot and kicking the back leg back and up (**Figures 30 – 33**), should be enough evidence to show what the best players have been trained to do, and the advantages of doing it this way.

Teaching Tool when players step through: One-Footed Serves

One of the best tools in learning to keep from stepping through is to practice serving on one foot, the front left foot for right-handed players. This drill helps players learn to push off with this foot and land on it. By balancing on this front foot, then serving off it, players have to learn to serve under balance as well as swing with control. In addition, the player can feel the back leg "kick back" in the right sequence.

Footwork Notes

On the serve, top level players push off on their front foot, (left foot for right-handers), and land on this same foot after contact. As players use greater upward thrust in generating additional power, the push off the ground is with this front leg. For years, there has been an argument among teaching pros of whether this is the best way for players to get to the net following the serve. Some pros believe stepping through with the back foot during contact and thus landing on this foot speeds up the movement of the player to the net. However, this is false. In addition to the problems this technique creates, (as I have mentioned regarding rotating the hips too early), it does not offer any advantage to a player who wishes to advance to the net. This is because the relationship of the body at contact dictates movement towards the net. Thus, a player who is stepping in with the back foot at contact lands one step in just after contact. In order to take a second step, the player must change the direction of rotational inertia of the body in order to get the next step in to the net. A player who pushes off and lands in the court with the front foot also has one step in just after contact. However, the natural rotation of the body's inertia continues to bring the back leg around in the same momentum allowing the second step to be in sync with the body's natural rotation after the serve. One final note, there isn't one top player on tour who steps through with the back leg!

Foundation of Spin

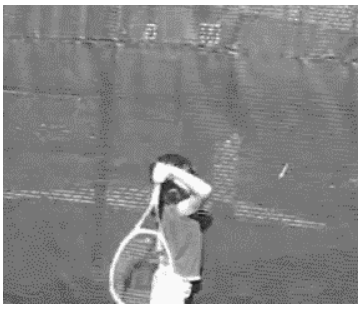


Figure 34: Use the fence with the player standing with their toss shoulder against the fence and swinging their racquet along the surface of the fence.

As I have mentioned in this chapter, among the first elements of learning to serve well is to learn the Foundation of Spin and how it affects the flight of the ball.

Whether working with a group of players or any individual, the progression of the serve should include developing spin as the foundation of the serve. There are many reasons for this:

- By developing a spin serve first, students will naturally be generally blessed with having an effective second serve.
- Even big, so-called "flat serves" for high-level players are hit with a significant amount of spin.
- By learning how spin affects a ball's trajectory and flight, players are more apt to move towards developing other types of spins such as topspin and kick serves.

One of the hardest things for intermediate players to do is to switch from the rudimentary flat serve (usually using an eastern forehand grip) to the serve that uses both spin and the more advanced continental grip. In my experience, it is far less time-consuming as well as less frustrating to first learn the continental grip with the slice serve as the initial foundation serve than it is for players to relearn the serve from the flat, eastern forehand serve that so many beginners are traditionally introduced to.

Figure 35: Guided Serve Drill: the instructor literally guides the student within the proper swing path.

Developing the Slice Serve First

Over the last thirty years of teaching tennis—as well as watching other teaching professionals attempt to teach—I have found that there is a 'better way' to teach most strokes…methods that provide the greatest opportunity for players to reach advanced levels of skill. For the serve, I have found that the slice serve is the best serve to develop all other serves from. The slice serve is generally the easiest spin to learn and it teaches the right service mechanics that will lead to developing the other serves. The brushing action of making the slice

serve spin also encourages players to hit through the ball as opposed to the flat serve which makes many players ease up on the speed of the racquet. One other thing, a flat serve tends to promote the use of the eastern forehand grip and subsequent swing pattern associated with that grip.

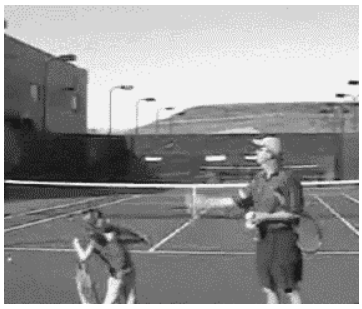


Figure 36: When working with a student trying to develop the proper swing path, tossing for the student can help them focus on their swing instead of the toss.

It is a lot of fun for players to see themselves hit a serve that curves in the air. It is often such a new concept for many beginners that it can open the door for such players to better understand the concept of spin for other shots. Also, by learning how to make the ball curve, it gets students to perceive where they should aim for the impact of spin on a ball. As with all spin shots, from serves to groundstrokes, players must learn to aim not right at the given target but aim in more of a 'three-dimensional' targeting impression. For example, a topspin groundstroke must be aimed well above the net to account for the downward arc that the topspin forehand or backhand will travel.

With any size group there are some drills to initially introduce to help speed up the learning of the serve.

Teaching Tools

The serve is probably the most difficult stroke for many kids and adults, especially if they have not experienced typical throwing motions associated with other ball sports such as football, baseball or softball, or other racquet sports such as badminton. Such sports can provide familiarity with the overhead throwing and swinging motions associated with the serve and overhead in tennis.

Thus, many players will need to be given teaching tools to speed up this understanding of the overhead arm motions that are necessary for developing a good serve.

1. **Fence Drill: (Figure 34)** Standing with the tossing shoulder against a fence, preferably one with a windscreen, have the student stand sideways with their racquet held back behind their head in the typical 'back scratch' position holding the continental grip. From this position, have them swing the racquet so it moves parallel with the fence, not hitting it flat. This drill gives a physical reference for them to sense the 'brushing' action and not to hit right at the back of the ball.

2. **Guided Serve Drill: (Figure 35)** Standing behind a shorter student, the instructor holds the racquet hand of the student while tossing and swinging the racquet for them, (while the student is still holding the racquet!) This is a good way for the student to feel the correct swing pattern.

3. **Toss for the Student Drill**: **(Figure 36)** Just as the name implies, this is where you have partners toss the ball for another player on the serve. Have the player stand to the side of the server. The server should stand with his or her racquet held over their head in either a back-scratch position or pointed up. (So they can sequence the 'collapse' of the racquet and the upswing in one continuous pattern.) This drill helps both the tossing partner as well as the server. Because the tossing player can direct the toss specifically to a spot over the server's head (because they, themselves, are not swinging the racquet), they can learn the tossing feel. (Make sure they toss with their normal tossing hand!) The server can concentrate on the swing as well as working on swinging at the ball rather than just swinging out of habit.

4. **Toss Drill II**: You can have your students work on tosses by marking a point on the court where a "good" toss would land. A small chalk mark, or, if it isn't too windy, a towel, or a piece of paper all work good for this mark. Have the player work on tossing the ball within their service motion but not swing at it. Have them hold the toss arm after the toss then look down to see if the ball landed on or near the mark on the ground. Holding the toss arm is similar to our "Hit and Hold" phrase which helps the student develop "muscle memory".

   I like this drill for the development of a good toss motion and aim. However, I prefer to get players to picture a "spot" in the air where they will toss the ball to. Some pros have said to "place" the toss in the air over their head where they want it to go. This is a good analogy too. But, tossing so that the ball lands on the ground at a certain point, while does provide feedback to the directional control of the toss, doesn't bring the player's focus to the point where the toss needs to be in order to hit a consistent serve.

Figure 39: Serving on the knees allow a player to discover if their swing pattern includes optimal swing components.

Figure 37: Start players at the service line to first learn to serve with the continental grip. The will be able to swing easier and focus on hitting with spin easier.

Figure 38: After players develop the spin and directional control from serving at the service line, (a shown in Figure 34), then you should move the student first half way back, and then, finally to the baseline.

5. **Down bounces with spin.** Unlike the down bounces I discussed in the beginning of this chapter, (where the student is kneeling and bouncing the ball flat using the continental grip), have players stand and hit the ball down while brushing the right side of the ball (for right-handed players), getting the ball to have some spin as you bounce the ball. At first, players will tend to bounce the ball as they spin around in a circle since brushing the right side of the ball will make the ball bounce to the player's left. However, when they learn to brush correctly, they will actually make the ball bounce back up to their racquet so they can continue the bouncing drill while standing still.

   This brushing action is the exact same path that the racquet will take on a typical slice serve; the only difference being that instead of brushing the ball down to the ground, when serving the same brushing motion is done over the head.

6. **Start players serving from the service line instead of the baseline. (Figure 37)** This will get them to feel the slice action on a shorter court as well as getting them to not feel like they have to swing hard to get the ball in. This aspect helps players keep from over rotating with their shoulders as many will do when trying to serve from the baseline. Have them stay sideways and feel the racquet edge leading the way into contact. (Instead of the 'beginning' serve of leading with the hitting elbow and hand.) Focus on the action of slice spin and they should have little trouble learning to actually slice the serve in on both the deuce and ad courts.

7. **Serve from the baseline: Aim High**! **(Figure 38)** This concept is to eventually get the students to serve from the baseline, after they have demonstrated hitting serves well from the service line. The thing you will half to remind your students of is that they need to aim two or three times higher than they were aiming when serving from the service line. Because they are much farther back, they will usually try to swing harder than up at the service line. Instead, have them swing easy but to aim very high. I usually tell players to aim over the back fence.

8. **Serve from your knees: (Figure 39)** A great drill to determine if your arm motion is correct is to serve from your knees. A proper swing pattern will allow the player to serve successfully without hitting their racquet on the ground.

   One of the problems with many players is they pull down their hitting arm down, (similar to swinging an ax down to cut wood down on the ground, see **Figure 40**), as this causes the player to swing with the arm instead of accelerating the racquet past the hitting hand and arm. Coaches will want to look for this common problem and correct it as soon as possible so the player does not develop a habit that will become harder to fix later on.

   Be careful in serving on the knees as I've actually seen players break their racquets on the ground. It is not a bad idea to practice this out on some grass to help prevent accidental racquet breakage!

Figure 40: Many players will serve using their arms as if they were swinging an ax downward onto a block of wood.

As players start working on the serve, there are several common faults that players will often encounter, many without knowledge they are doing them. As a coach, you will want to address these early on, as well as be aware of these common errors.

Across the Ball; At the Ball

These two phrases aptly describe what you want your strings to do for a spin serve or a flat serve. ***"Across the Ball"*** refers to the strings moving forward then brushing across the ball. The type of spin will dictate the angle in which to brush across the ball:

Slice: Across the outside portion of the ball, around the equator of the ball as it would spin on a north-south axis. (Similar to making the ball spin like the earth on its axis.)

Topspin: Brushing up the back of the ball towards the sky. Imagine the ball spinning on a horizontal axis that is almost parallel with the baseline.

Kick: Brushing up the inside portion of the ball. For a right-hander, this would be brushing up to the right as if the ball had a horizontal axis, but one that is pointed towards the left net post.

For a flat serve, imagine hitting ***"AT the BALL".*** That is, imagine giving the back of the ball a "high-five".

You can practice this by holding your toss hand flat over your head in front of you and taking your other, empty hand, (the one you would be holding the racquet in), and bringing it towards your toss hand. If you start your hitting hand with your palm facing your right ear (for right-handed server), with the edge of your hand facing your open toss hand, you can bring your hand forward and 'slap' your hand square. This simulates your flat serve. (If you make a loud 'clapping' sound, you are hitting "at your hand" flat.

Repeating this same practice move, instead of coming directly to your hand as in the 'high-five' example, you brush from below the hand up and across the hand, you will only hear a 'wooosh' where the hands brush across each other. This action simulates the brushing sound you will want your strings to do when hitting a spin serve.

Serving Strategies

Obviously, the most important aspect of any serve is improving the intentional control of where it is going. The ability to hit the serve 'on a dime' as the saying goes, is a great ability which provides confidence and competence.

But WHERE do you want to hit the serve to, once you have this control?

And perhaps a more subtle, overlooked question is, where do you want to serve the ball FROM?

Twenty Seven Different Serves on ONE SIDE!

If you consider there are three to four different 'spins' you can hit, (Slice, Topspin, Flat, and Kick), and you multiply this by three distinct areas you can aim for the serve, (down the "T", down the middle and out wide), and you can serve from three distinctive locations (in doubles, out by the alley, inside the singles side line, and close to the "T"), you can have over 27 different serve combinations.

Unfortunately, many players get comfortable serving only from the same place every time with essentially the same spin and location. Such players are not taking advantage of the opportunities to vary the serve significantly, always giving your opponent something different.

In my younger days, I would warm up my slice serve by hitting it way out wide with a lot of spin on the deuce side. When it came to my first serve, I would hit a flatter serve down the "T" for an ace (if I got it in!). This rather cocky way to start my service game taught me that I could play with my opponent's mind from the very start, making them not know what I would serve them next.

On the ad court, a big kicker out wide opens the door to hitting the big hooking slice down the "T". In singles, your ability to create wider serves more effectively opens the door to aces down the "T". When an opponent has to respect your angles, you are able to come in the 'back door' with more effectiveness.

Doubles and Singles Serving Strategies

In doubles, the first serve is so important. Because the returning player is uncertain what serve you will be hitting, there is a natural defensiveness in hitting the return. This opens the door for your net partner to be more active and aggressive. If you are hitting a lot of second serves, there is a more confident mindset by your opponent, especially if you have a weak second serve. (This is why I will remind you again that your serve is only as strong as your second serve!) Also, your net partner will usually need to be more defensive to guard against the return player attacking him down the line. It is far more effective to hit a spin first serve than to attempt first-serve bombs that are only 20% landing in. Also, depth in the service box is probably an equally important element to a great serve. (Except when trying for sharp angles where depth will decrease the potential angle of any wide serve.)

In singles, the element of the first serve has the same psychological impact as I described in doubles, except that there is not a net player to consider. Thus, in singles, the first serve is important to win easy points when possible and to set up a weak return to attack. Unless you have a total paddy-cake serve, the depth of your serve will be the important point that will help keep opponents from attacking you with regularity.

Serve Drills

Once the serve technique is mastered, players will need to improve their aim and control of the various serves. Often, however, when faced with the task of serving many balls, players forget to focus on the right technique and can start to develop bad habits. Thus, as with any drill, players need to be conscious of continuing to work on stroke patterns even while working on improving aim through repetition.

Make sure you have plenty of targets such as cones, towels, water bottles, etc. Many players fail to use targets and do not improve their control as fast or as well without them.

5, 4, 3, 2, 1 Drill

This simple serve drill has a player serving five of the same serves to the same target followed by five serves to another target. This is repeated with four serves, then three, two and finally one serve each to two different targets.

Repetition Drill

This is a fast-paced serve drill where the player doesn't stop and evaluate every serve. The only evaluation is the aim and it is done quickly right after the serve. This rapid fire serve pattern can help build rhythm and confidence. However, be careful to not let bad little habits form.

Extreme Angle Serves

Hit many serves standing out very wide, even outside the doubles alley, to discover new angles and the feel for hitting such serves. While it is illegal to serve outside the alley, it can help players develop an excellent slice serve. And, work on hitting balls down the "T" as well to learn how to hit the center line from an out-wide position.

One-Footed Serve Drill (Figure 41)

This extremely good drill is ideal for developing balance as well as helping players swing "within themselves". That is, standing and balancing on one foot makes it difficult to "over-hit" the serve. Many times, players discover through one-footed serves, they serve better than their regular stance. The reason for this is it focuses on swinging with balance instead of the alternative! While it is difficult at first, players won't take too long to get the feel for this drill…a drill that should be done often, once the player demonstrates clear mastery of the proper serve pattern and swing path.

Figure 41: Here, my 8-year old daughter Kyla, hits off one foot working on her balance.

Conclusion

The serve and the volley are only two of the many shots in tennis. However, among players who steadily improve and advance, past those levels deemed mediocre and rudimentary, those who get "stuck" at lower levels are traditionally those who are weak in both of these shots. Because both shots are based on the ability of players gaining comfort and familiarity with the continental grip, those who ignore or refuse to practice and utilize the grip within these two strokes will be greatly limited in terms of progressing past such mediocre levels. Thus, while the serve and volley only make up two of the many available shots in tennis, they certainly help define whether a player is advanced in his or her overall game.